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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/735,860	12/12/2000	Donald C.D. Chang	PD-200275	6644

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EXAMINER
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ZEWDU, MELESS NMN

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 07/07/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/735,860

Applicant(s)  
Chang et al.

Examiner  
Meless Zewdu

Art Unit  
2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above, claim(s) NONE is/are withdrawn from consideration.
- 5) ☒ Claim(s) NONE is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-12, and 18-22 is/are rejected.
- 7) ☒ Claim(s) 9 and 13-17 is/are objected to.
- 8) ☒ Claims NONE are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Dec 12, 2000 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2 6) ☐ Other:

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### **DETAILED ACTION**

1. This action is the first on the merit of the instant application.
2. Claims 1-22 are pending in this action.

#### ***Claim Objections***

3. Claim 12 is objected to because of the following informalities: the claim is incomplete and examination is carried out based on the claim as presented currently. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-8, 11, 18, 19, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ibanez-Meier et al. (Meier) (US 6,151,308) in view of Martin et al. (Martin) (WO 99/23769).

**As per claim 1:** a communication system comprising:

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a plurality of high altitude communication devices reads on '308 (see abstract; col. 4, lines 25-32).

a gateway terminal receiving the communication portions from the high altitude communication device and reassembling the communication portions into the communication reads on 308 (see abstract; col. 13, lines 18-27). The ground device provided by the prior art is functionally the same as a gateway. But Meier does not explicitly teach about a user terminal establishing a plurality of multiple dynamic links corresponding respectively to said user terminal, said user terminal generating multiple communication portions of a communication and transmitting the multiple communication portions through said multiple dynamic links, as claimed by applicant. However, in a related field of endeavor, Martin teaches about subscriber/user devices that are capable communicating/receiving and transmitting/ voice, video, and data at broadband and/or narrowband rates (see page 4, lines 2-9) wherein service is provided on demand (see page 11, lines 5-22) which is dynamic. Both of these prior arts are closely related and combinable. As a result both Meier's platform (fig. 1, element 110 and 112) and destination devices (fig. 1, elements 122-121) can be improved by the teaching of Martin (see page 12, line 30-page 14, line 23). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching of Meier with that of Martin for the advantage of providing users bandwidth on demand (BOD).

**As per claim 2:** a system wherein said high altitude communication device comprises a stratospheric platform reads on '308 (see col. 4, lines 2-24).

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**As per claim 3:** a system wherein said high altitude communication device is selected from the group consisting of a LEO satellite, a MEO satellite, or a GEO satellite reads on '308 (see col. 4, lines 11-24).

**As per claim 4:** a system wherein said user terminal is mobile reads on '308 (see col.8, lines 4-39).

**As per claim 5:** a system wherein said multiple dynamic links are capable of having independently varying data rate reads on '769 (see page 11, lines 9-22).

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meier in view of Martin as applied to claim 1 above, and further in view of Nouri (US 6,484,213 B1).

**As per claim 6;** but Meier in view of Martin do not explicitly teach about a user terminal comprising a router for routing uplink communication portion through said links, as claimed by applicant. However, in a related field of endeavor, Nouri teaches by stating that a communication node is, typically, a computer of some type, including a personal computer (PC), minicomputer, etc. and generally includes a network interface card (NIC) for interfacing the computer to a network device, such as, among others, hub and router (see col. 1, lines 39-49). In other words, the NIC functions, at least as a router. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to add Nouri's network interface cards (NICs) to Meier's destination/user terminals, as modified by Martin, for the advantage of upgrading Meier's communication network into an enhanced hybrid networking system (see col. 1, lines 7-10).

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**As per claim 7:** a system wherein said router receives the communication portions and arranges the communication portions in a predetermined sequence reads on '213 (col. 4, lines 19-39). It is obvious and known that data transmitted according to some order so that it can be recovered by a receiver at a remote location based on the order.

**As per claim 11:** a system wherein said user terminal comprises a TCP/IP protocol for transmitting the multiple communication portions reads on 9: a system wherein said user terminal establishes a plurality of forward links and on '308 (see col. 14, lines 46-61). The Internet is known to use TCP/IP protocol.

7. Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meier as applied to claim 1 above, and further in view of Scheffe et al (Scheffe) (US 5,990,839).

**As per claim 8:** but, Meier does not explicitly teach about a user terminal that comprises a multiple beam antenna capable of simultaneously generating multiple dynamic links, as claimed by applicant. However, in a related field of endeavor, Scheffe provides a portable radio unit capable of operating in a satellite communication mode wherein the portable radio unit includes arrays of steerable (dynamic) patch antenna elements that enables the portable radio unit communicate via radio signals (see col. 1, lines 12-45; col. 2, line 31-col. 3, line 22; col. 5, lines 55-67). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Meier's destination devices with Scheffe's patch antenna system for the advantage of providing Meier's destination devices to maintain a reasonable receive and transmit quality at a large scan angles (see col. 2, lines 48-50).

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8. Claims 10, 12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meier in view of Martin and further in view of Nouri.

**As per claim 12:** Meier's ground device/user device has a beam forming and tracking means and when modified by Martin, as discussed in the rejection of claim 1, will have multiple dynamic links with a satellite or/and a communication platform located in space. But, Meier in view of Martin do not explicitly teach a user terminal comprising a receiving hub and a router, as claimed by applicant. However, in a related field of endeavor, Nouri teaches about a communication node, typically, a computer of some type, including a personal computer (PC), minicomputer, etc. and generally includes a network interface card (NIC) for interfacing the computer to a network device, such as, among others, hub and router (see col. 1, lines 39-49). In other words, the NIC has a hub and a router embodiments or functions. Furthermore, as defined in the specification, a user terminal includes fixed user terminals. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to add Nouri's network interface cards (NICs) to Meier's destination/user terminals, as modified by Martin, for the advantage of upgrading Meier's communication network into an enhanced hybrid networking system (see col. 1, lines 7-10).

**As per claim 10:** the feature of claim 10 are similar to the features of claim 12 and hence, claim 10 is rejected on the same ground and motivation as claim 12.

**As per claim 20:** the features of claim 20 are similar to the features of claim 12 and are rejected on the same ground and motivation.

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9. Claims 18, 19, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meier in view of Willis et al. (Willis) (US 6,385,647 B1).

**As per claim 18:** a method of operating a communications system comprising:

forming a plurality of multiple communication links directed to a plurality of high altitude communication devices reads on '308 (see col. 8, lines 4-39). The Meier reference teaches a ground communication device/gateway which is capable of bidirectionally exchanging communication data with high altitude devices and end user devices/destination devices. But Meier's reference does not explicitly teach about dividing, communication data into datagrams which are received and reassembled at the gateway. However, in a related field of endeavor, Willis teaches about multicast using -IP directly to various receiving facilities, via a satellite, wherein the receiving facilities, in turn transmit the data to the destinations. At the IP level, the data is sent datagram packets to routed from the source to the destination (see col. 10, line 35-col. 11, line 53; col. 17, line 63-col. 18, line 37). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Meier's elevated/high altitude communication system with the teaching of Willis for the advantage of multicasting multimedia data using the IP datagram which are independent, and self contained entity and hence convenient for multicasting. (See col. 10, lines 40-46).

**As per claim 19:** a method further comprising the step of generating a second plurality of datagrams at a gateway station reads on '647 (see col. 11, lines 23-40).



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establishing a second plurality of dynamic communication links between a communication station and a user terminal through a plurality of high altitude communication devices reads on 308 (see col. 8, lines 4-39). When the '308 is modified by the '647 (see col. 17, line 50-col. 18, line 25), the Meier's system will be able to w dividing a communication into a plurality of establishing a second plurality of dynamic communication links between a communication station and a user terminal through a plurality of high altitude communication devices.

reassembling the second plurality of datagrams into the communication at the user terminal reads on '647 (see col. 11, line 23-53; col. 17, line 50-col. 18, line 25).

**As per claim 21:** a method including prior to the step of reassembling, further classifying the datagrams according to protocol reads on '647 (see col. 10, line 40-col. 11, line 49).

**As per claim 22:** a method including, prior to the step of reassembling, starting a reassembly timer counting a time reads on '647 (see col. 10, lines 57-61).

when the time exceeds a predetermined time before all fragments of a datagram arrive, disregarding the datagram reads on '647 (see col. 10, lines 40-61).

generating a resend signal reads on '647 (see col. 11, lines 40-49).

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*Allowable Subject Matter*

10. Claims 9 and 13-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meless Zewdu whose telephone number is (703)306-5418. The examiner can normally be reached on week days from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost (703)308-5318.

Any response to this action should be mailed to:

Commissioner of Patent and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314.

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Six Floor (Receptionist).

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Any inquiry of a general nature or related to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-0377.

¶ 5.03 Reassignment Affecting Application Location

The Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2683.

Meless Zewdu

M. Z.

Examiner

June 13, 2003.

  
WILLIAM TROST  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600